

JIS

JAPANESE INDUSTRIAL STANDARD

Grooved pulleys for narrow V-belts

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.



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1. Scope

This Japanese Industrial Standard specifies the narrow V-pulleys used for the narrow V-belts specified in JIS K 6368 (hereafter referred to as "V-pulleys").

Remarks 1. The qualities, shapes and dimensions of grooved part and datum diameters of the ISO-type narrow V-pulleys specified in ISO 4183-1989 are specified in Annex.

2. The applicable standards to this Standard are as given in the following:

JIS B 0405-General Tolerances - Part 1: Tolerances for Linear and Angular Dimensions Without Individual Tolerance Indications

JIS B 0407-Permissible Deviations in Dimensions Without Tolerance Indication for Iron Castings

JIS B 7503-Dial Gauges Reading in 0.01 mm

JIS G 5501-Grey Iron Castings

JIS G 5502-Spheroidal Graphite Iron Castings

JIS K 6368-Narrow V Belts for Power Transmission

3. The corresponding International Standard to this Standard is given in the following:

ISO 4183-1989 Belt drives - Classical and narrow V-belts - Grooved pulleys (system based on datum width)

2. Types

The types of V-pulleys shall be as given in Table 1, according to the types of corresponding V-belts and number of grooves.

Table 1. Types of V-pulleys

Type of V-belt	Number of grooves							
	1	2	3	4	5	6	8	10
3V	3V1	3V2	3V3	3V4	3V5	3V6	—	—
5V	—	5V2	5V3	5V4	5V5	5V6	5V8	5V10
8V	—	—	—	8V4	—	8V6	8V8	8V10

3. Qualities

3.1 Appearance V-pulleys shall be free from harmful defects in use such as blowholes, flaws and cracks.

3.2 Permissible values for runouts on outer circumferences and runouts on rim side-faces The permissible values for runouts on outer circumferences and runouts on rim side-faces with respect to the shaft-bore centers of V-pulleys shall be in accordance with Table 2.

Table 2. Permissible values for runouts on outer peripheries and runouts on rim side-faces of V-pulleys

Unit: mm

Nominal outer diameter	Permissible value for runout on outer periphery	Permissible value for runout on rim side-face
67 or over to 125 or under	0.2	0.2
Over 125 to 315 or under	0.3	0.3
Over 315 to 710 or under	0.4	0.4
Over 710 to 1000 or under	0.6	0.6
Over 1000 to 1250 or under	0.8	0.8

3.3 Quality of balance The quality of balance of a V-pulley, taking 0.1 % the mass of the V-pulley or 2 g, whichever the larger one, as a permissible value, shall satisfy this value.

4. Shapes and dimensions

4.1 Shapes and dimensions of V-pulleys The shapes and dimensions of V-pulleys (excluding grooved parts) shall conform to Attached Table 1.

4.2 Shapes and dimensions for grooved parts The shapes and dimensions for grooved parts of V-pulleys shall be in accordance with Table 3.

Table 3. Shapes and dimensions for grooved parts of V-pulleys

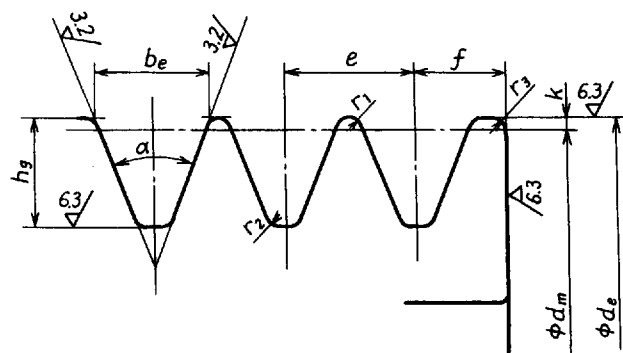


Table 3 (Continued)

Type of V-belt	Nominal outer diameter ⁽¹⁾	α	b_e	h_g	k	e	f (Minimum dimension)	r_1	r_2	r_3
3 V	67 or over to 90 or under	36°	8.9	9	0.6	10.3	8.7	0.2 to 0.5	0.5 to 1	1 to 2
	Over 90 to 150 or under	38°								
	Over 150 to 300 or under	40°								
	Over 300	42°								
5 V	180 or over to 250 or under	38°	15.2	15	1.3	17.5	12.7	0.2 to 0.5	0.5 to 1	2 to 3
	Over 250 to 400 or under	40°								
	Over 400	42°								
8 V	315 or over to 400 or under	38°	25.4	25	2.5	28.6	19	0.2 to 0.5	1 to 1.5	3 to 5
	Over 400 to 560 or under	40°								
	Over 560	42°								

Unit: mm

Note ⁽¹⁾ This is the diameter d_e where the width b_e of a groove becomes the value in this Table, and, in general, it is the same as the outer diameter. Furthermore, the diameter d_m is used for the measurement of belt length, calculation of the measure for ratio of rotation, etc.

Remarks: Dimensions of d_e and d_m shall be in accordance with Attached Table 1.

4.3 Tolerances for outer diameters The tolerances for the outer diameters of V-pulleys shall be in accordance with Table 4.

Table 4. Tolerances for outer diameters of V-pulleys

Unit: mm	
Nominal outer diameter	Tolerances for outer diameter
67 or over to 125 or under	± 0.6
Over 125 to 315 or under	± 0.8
Over 315 to 710 or under	± 1.2
Over 710 to 1000 or under	± 1.6
Over 1000 to 1250 or under	± 2

4.4 Dimensional tolerances on each part of grooved part The dimensional tolerances on each part of grooved part of V-pulley shall be in accordance with Table 5.

Table 5. Dimensional tolerances on each part of grooved part of V-pulley

Unit: mm				
Type of V-belt	Tolerances on a	Tolerances on b_e	Tolerances on h_g	Tolerances on e (2)
3 V	$\pm 0.5^\circ$	± 0.13	+0.5 0	± 0.25
5 V				
8 V				± 0.4

Note (2) The cumulative error for e dimension within one piece of V-pulley shall be within ± 0.8 mm for the 3 V type, 5 V type and 8 V type alike.

4.5 Dimensional tolerances on portions without specifications of dimensional tolerances The dimensional tolerances on cutting processed portions of V-pulleys which are not provided with the specifications of the dimensional tolerances shall be in accordance with the C (coarse grade) of JIS B 0405.

The dimensional tolerances on as cast portions shall be in accordance with the ordinary grade of JIS B 0407.

5. Material

The material to be used for the V-pulleys shall be the class 3 (FC 200) of JIS G 5501 or the class 2 (FCD 450) of JIS G 5502, or that having the qualities equal to or superior to these.